

REMARKS

This Reply is responsive to the Office Action dated March 9, 2005 and the Advisory Action dated October 11, 2005. Entry of the amendments and remarks submitted herein and reconsideration of the claimed subject matter pursuant to 37 CFR §1.111 is respectfully requested.

I. Status of the Claims

Claims 57-120, 122-125, 129-132, 134-136, 141-144, 149-152, 154 and 156-162 were pending in this application at the time of the Office Action dated March 9, 2005. As a result of this amendment, claims 62, 70, 83, 91, 99, 105, 110, 114, 122 and 150 have been canceled. Accordingly, claims 57-61, 63-69, 71-82, 84-90, 92-98, 100-104, 106-109, 111-113, 115-120, 122-125, 129-132, 134-136, 141-144, 149-152, 154 and 156-162 remain pending and under examination.

II. Amendments to the Claims

Claims 57, 65, 73, 78, 86, 94, 102, 108, 120, 132 and 144 have been amended without prejudice above to clarify that each polymer is on a known, localized area of less than 2.5×10^5 microns², and the density of the diverse polymers is at least 400 diverse polymers per cm².¹ Support for these amendments may be found in the specification at the very least at page 2, lines 13-14 and lines 26-34; page 3, lines 36 to page 4, line 15;

¹ This recitation should not be construed to exclude instances where the intention is to synthesize at least 400 diverse polymers per cm², but polymer synthesis is unintentionally and prematurely terminated.

page 11, lines 29-36 and page 15, lines 13-30. Support for the density recitation may also be found in dependent claims 62, 70, 83, 91, 99, 105, 110, 114, 122 and 150, each of which has been canceled above. Claim 142 has been amended to correct an inadvertent grammatical error. No prohibited new matter has been added.

III. Rejections under 35 U.S.C. §112

Claims 57-120, 122-125, 129-132, 134-136, 141-144, 149-152, 154 and 156-162 have been rejected under 35 U.S.C. §112, first paragraph, for allegedly containing new matter. At the outset, the Advisory Action asserts that the limitation of 400 diverse polymers per cm^2 is new matter that allegedly requires further search and/or consideration. Applicants respectfully note that this limitation was incorporated into the amended claims above from canceled claims 62, 70, 83, 91, 99, 105, 110, 114, 122 and 150. Accordingly, Applicants fail to see how this amendment requires further search and/or consideration since it was already present in the pending claims.

The Advisory Action also questions support for a “known” area of synthesis, alleging that the specification discloses a plurality of localized areas for synthesis rather than a singular known location as proposed in the amended claim. Applicants fail to understand this comment as the amended claims refer to a known, localized area for each diverse polymer, of which there are at least 400 per cm^2 , which would be a plurality of localized areas as acknowledged in the Advisory Action. Clarification is respectfully requested.

In the Advisory Action dated October 11, 2005, the Examiner states that the computer program and image limitations are reasonably deemed critical limitations.

Respectfully, it appears that the Examiner has misconstrued Applicants' arguments submitted in the Reply filed August 24, 2005. Applicants did not assert that the existing claim limitations were not critical. Rather, Applicants asserted that the omitted limitations that the Examiner was requiring Applicants to add to the claims were not critical.

For instance, according to the U.S. Patent & Trademark Office Board of Patent Appeals and Interferences, the critical inquiry as to whether an omitted limitation creates new matter is "whether the original disclosure indicates or suggests that the omitted limitation 'was essential or critical to either the operation or patentability of the invention.'" *In re Peters*, 723 F.2d 891, 893, 221 USPQ 952, 953 (Fed. Cir. 1983). In the present case, the Examiner has not established that the limitation pertaining to a photon counting program is either critical or essential to the operation of the invention, and the Applicants are improperly being confined to a specific embodiment. *Id.* at 953. Applicants respectfully submit that photon counting is but one embodiment disclosed in the specification and the claims as they stand merely omit an unnecessary limitation that has nothing to do with the operation or patentability of the invention.

The overall disclosure reasonably conveys to one skilled in the art that other types of images and image detection means may be used in the methods and systems of the invention. *See In re Peters*, 221 USPQ at 953-54. For instance, US Patent No. 5,143,854 (USSN 07/492,462), which was incorporated by reference for all purposes (see first paragraph of original specification), discloses that receptors that bind to polymers on the substrate may be labeled with a fluorescent marker, radioactive marker or a labeled antibody, and that location of the marker on the substrate may be detected with for

example, photon detection or autoradiographic techniques (col. 3, lines 45-49, with emphasis; see also col. 10, lines 44-50). As further stated in the '854 patent (col. 22, line 61 to col. 23, line 8, with emphasis):

In practice it is found that a receptor will bind to several peptide sequences in an array, but will bind much more strongly to some sequences than others. Strong binding affinity will be evidenced herein by a strong fluorescent or radiographic signal since many receptor molecules will bind in a region of a strongly bound ligand. Conversely, a weak binding affinity will be evidenced by a weak fluorescent or radiographic signal due to the relatively small number of receptor molecules which bind in a particular region of a substrate having a ligand with a weak binding affinity for the receptor. Consequently, it becomes possible to determine relative binding avidity (or affinity in the case of univalent interactions) of a ligand herein by way of the intensity of a fluorescent or radiographic signal in a region containing that ligand.

Thus, it is clear from the present disclosure that both autoradiography and photon detection may be used in the systems of the invention, and therefore, images other than photon data images may be generated. The Examiner has provided no evidence to suggest that the photon detection embodiment is essential or critical to the invention.

In view of the amendments and remarks presented above, reconsideration and withdrawal of the new matter rejection under 35 U.S.C. §112, first paragraph, are respectfully requested.

IV. Rejections under 35 U.S.C. §102

Claims 57-120, 122-125, 129-132, 134-136, 141-144, 149-152, 154 and 156-162 were rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Williams et al. Applicants respectfully note that the claims have been amended above to clarify that each polymer is on a known, localized area of less than 2.5×10^5 microns², and that the density

of the diverse polymers is at least 400 diverse polymers per cm². According to the Office Action, each polymer of Williams et al. would take up an area that is less than 2.5×10^5 microns, however, such areas are not known, localized areas as recited in the amended claims. Further, the polymers of Williams et al. are synthesized using the geometry of a 96 well plate (see abstract). Accordingly, Williams et al. does not disclose a substrate having at least 400 diverse polymers per cm² as recited in the amended claims.

Reconsideration and withdrawal of the rejection based on Williams et al. are respectfully requested.

This reply is fully responsive to the Office Action dated March 9, 2005 and the Advisory Action dated October 11, 2006. Therefore, a Notice of Allowance is next in order and is respectfully requested.

Except for issue fees payable under 37 CFR §1.18, the commissioner is hereby authorized by this paper to charge any additional fees during the pendency of this application including fees due under 37 CFR §1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-1283. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 CFR §1.136(a)(3).

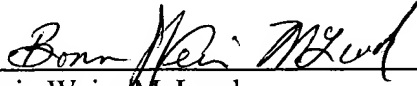
If the Examiner has any further questions relating to this Reply or to the application in general, he is respectfully requested to contact the undersigned by telephone so that allowance of the present application may be expedited.

Respectfully submitted,

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